

CONSTRAINTS AND SUGGESTIONS REPORTED BY RESPONDENTS IN ADOPTION OF PADDY SEED PRODUCTION TECHNOLOGY UNDER RASTRIYA KRISHI VIKAS YOJONA (RKVY) ON PATNA BLOCK OF KEONJHAR DISTRICT (ODISHA)

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ABSTRACT

Constraints are the only substitute of creating innovations in coming future with coming generations. But suggestions are the research proposals found in miniature form but yield the noble of success. Here the researchers want to submit both constraints and suggestions in adoption of paddy seed production technology under RKVY scheme which is being operated in KBK area of Odisha. It is the real research for farming community whose are always facing poverty, migration and lack of help and away from main streaming.

KEYWORDS: *Constraint, Suggestion, RKVY, KBK*

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INTRODUCTION

Agriculture is the largest and the most important sector to boost the Indian economy. More than two third of the population depends on agriculture. Due to continued efforts made by the government and other concerned developmental agencies; India's food grain production has reached around 257.44 MT during 2013-14.

India remains mainly an agrarian economy in spite of planned efforts to industrialization. In the agrarian economy, agriculture exports have shown special significance and foreign trade has depicted dynamic character. It can create capacity to increase wealth. It is now recognized that capital accumulation in a developing country is not merely a matter of domestic savings, but is a question of foreign trade and balance of payment.

Quality seed is an important input for increasing agricultural productivity. Appreciating its pivotal role in meeting the challenges posed by increasing population, the Indian government initiated various policy measures which contributed in the growth of seed industry in India. From a few units there has been a tremendous rise (more than 200 seed companies in private sector) in number of seed companies and corporations. Quality seed production of 346.36 lakh quintals in 2012-13 and 353.62 lakh quintals in 2013-14, 51 per cent was produced by Government agencies and 49 per cent by private seed companies (Ministry of Agriculture 23 may, 2012).

Seed production is a risky venture as there is always a chance of rejection at the certification stage. The institutional sources have not fully appreciated the need for higher scale of finance for seed production. Also, there is no insurance for seed crop production.

The concept of seed village is not new. One of the task was to educate and train the farmers about its higher yielding capacity. The improved variety yielded almost double than the paddy varieties available at that

time. This generated a great demand for paddy seed.

Agricultural technologies are evolved at research stations and communicated to the farmers for its adoption, but these technologies are not fully adopted by the farmer.

Besides, the above slated efforts Rastriya Krishi VikashYojna (RKVY), Ministry of Agriculture came into action for increasing the seed production in order to fulfill the demand of the slate. National Developments Council (NDC), Government of India in its 53rd meeting on 29-05-2007 resolved that a special scheme should be launched for meeting the 4% annual growth in agriculture sector during 12th five year plan. The Council resolved t

OBJECTIVES

- To illustrate the details about various constraints of paddy seed production technology.
- To frame suitable strategies by formulating various suggestions against constraints.

MATERIALS AND METHODS

Ex-post-facto research design was followed in the present investigation. it is a systematic inquiry in which researcher does not have direct control of independent variables because their manifestation have already occurred and they cannot be manipulated.

The present study was carried out using ex-post facto research design during 2013-14 in the purposively selected Keonjhar district as the participatory seed production programme. under RKVY was implemented in this district. The sample population consisted 120 (60 beneficiaries and 60 non beneficiaries) were selected from 6 villages of 1 block of Keonjhar district. it was hypothesized that the progressive was significant contributed enhance knowledge of beneficiaries. The statistical tools were used for determining the extent of knowledge on three points continuum as full, partial, and non-adoption. The independent variables represented personal, socio-economic and psychological characteristics of the respondents and were empirically measured by procedures evolved for the purpose by earlier researchers. A structured and pre-tested interview schedule was to collect data from the respondents by personal interview methods.

Co-Efficient of Correlation ('r' Value)

Co-efficient of correlation was computed to find out the relationship between the variables. The correlation coefficient gives two kinds of information (i) degree of the relationship and (ii) direction of the relationship (whether positive or negative) between any two variables.

For computing the correlation coefficient 'r' the Karl Pearson method was used as under.

$$r = \frac{\sum xy}{\sqrt{\sum x^2 \cdot \sum y^2}}$$

Where,

$$X = (X - \bar{X}), Y = (Y - \bar{Y})$$

r = correlation coefficient

X = Independent variable

Y = Dependent variable

$$\sum xy = \sum (X - \bar{X})(Y - \bar{Y})$$

$$\sum X^2 = \sum (X - \bar{X})^2$$

$$\sum Y^2 = \sum (Y - \bar{Y})^2$$

Z Test

To test the hypothesis z test was used because of the large sample size. This test was used to find out if there were any significance difference between beneficiaries and non-beneficiaries as regarding their knowledge and adoption of seed production technology.

$$X1-X2$$

- $Z = \frac{X1-X2}{\sqrt{\frac{(S1)^2}{n1} + \frac{(S2)^2}{n2}}}$
- X1=mean of the first sample
- X2=mean of second sample
- S_1^2 = standard deviation of first sample
- S_2^2 = standard deviation of second sample
- N1= no of observation of first sample
- N2= no of observation of second sample

REVIEW OF LITERATURE

Constraints Reported by Respondents in Adoption of Improved Paddy Production Technology

Caldwet and Christain (1996): reported the technical difficulties encouraged in developing a biologically-based cereal IPM production system. They concluded that by presenting ways in which the three methods (reductionism, systems approaches and farmers' participation) could be better integrated for each to make complementary contributions to research and extension in sustainable agriculture.

Kushwaha (1996): found that lack of modern agricultural equipments, lack of knowledge, problems of soil and unavailability of improved seeds, insecticides and pesticides were the most important problems reported by the growers.

Yadav (2001): reported that most of the respondents were facing the problems i.e. lack of irrigation, lack of credit finance, high cost of input, non-availability of fertilizers, lack of implements, lack of knowledge about onion production.

Singh (2002): reported that lack of technological knowledge, use of poor quality chemicals, lack of resources, imbalance nutrition, infestation of white rust, infestation of aphids, weed control measures not followed, poor plant protection measures in graminious cereal crops.

Kushwaha (2003): found that major constraints were reported by the selected farmers such as high cost of insecticides and pesticides, lack of knowledge about plant protection measures and non-availability of insecticides and pesticides in the right time in graminious cereal crops.

Sachanet *et al.* (2005): reported that most of the responsible factors for non-adoption of plant protection were lack of knowledge about seed treatment and plant protection measures, high cost and non-availability of effective fungicides, sprayers and dusters.

RESULTS AND DISCUSSIONS

Situational Constraints

The data presented in table 1 shows the constraints faced by the beneficiaries and non-beneficiaries in adoption of paddy seed production technology.

The table reveals that under situational constraints, erratic rainfall (96.92 %), irregular supply of electricity (91.67%), and lack of labour at the time of harvesting (76.67%) were the major situational constraints faced by beneficiaries in adoption of paddy seed production technology. Similarly in the case of non-beneficiaries the situational constraints, improper rainfall (97.75 %), irregular supply of electricity (95%), and poor transport facility (90%) were the major situational constraints.

Technological Constraints

It is evident from the table 1 that the beneficiaries were under technological constraints, lack of knowledge regarding insect pest and disease control measure (20 %), lack of knowledge about field inspection and roguing (16.67%) and lack of knowledge regarding seed treatment and their doses (15%) as compared to non-beneficiaries under technological constraints, lack of knowledge regarding isolation distance (91.67%), lack of knowledge field inspection and roguing (88.33%) and lack of knowledge regarding seed treatment and their doses (80%) were the major technological constraints faced in adoption of paddy seed production technology

Economic Constraints

The data in table 1 shows that high interest rate, high labour cost and high cost of agriculture inputs were the major economic constraints as perceived by 60%, 55.33% and 53.3% of beneficiaries, respectively, as compared to non-beneficiaries high interest rate (86.67%), lack of capital to purchase agricultural inputs (85)% and high labour cost (85%) were major economic constraints.

Table 1: Constraint Faced by Beneficiaries and Non Beneficiaries

S. No	Constraints	Beneficiaries			Non -Beneficiaries		
		F	P	R	F	P	R
1	2	3	4	5	6	7	8
I	Situational Constraints						
	Non-availability Agriculture input in village	45	75.00	III	53	III	
	Market is away from village	35	58.33	V	48	80.00	
	Irregular supply of electricity	55	91.66	I	57	95.00	
	Improper rainfall	32	53.33	VI	38	25.00	
	Lack of labour at the time of harvesting	40	76.67	II	52	86.66	
	Poor transport facility	41	69.33	IV	54	90.00	
II	Technological Constraints						
	Lack of knowledge regarding seed treatment and their doses	9	15.00	III	48	80.00	III
	Lack of knowledge regarding about isolation distance	3	5.00	IV	55	91.67	I

Table 1: Contd.,							
	Lack of knowledge about field inspection and rouging	10	16.67	II	53	88.33	II
	Lack of knowledge regarding insect-pest and disease control measure	12	20.00	I	46	76.67	IV
III	Economical Constraints						
	Lack of capital to purchase agril. Inputs	30	50.00	IV	51	85.00	II
	Difficult credit procedure	28	46.67	V	45	75.00	V
	High labour cost	35	55.33	II	51	85.00	III
	High cost of agril. Inputs	32	53.33	III	46	76.00	IV
	High interest rate	36	60.00	I	52	86.00	I
IV	Marketing Constraint						
	Lack of payment in the market	21	35.00	V	43	71.67	VI
	Delay in payment in the market	33	55.00	III	49	81.67	II
	Interference of middleman marketing	25	41.66	IV	45	75	IV
	Mismanagement of procurement centres	39	65.00	I	45	75	V
	Less selling price of procedure	35	58.33	II	48	80	III
	Non-availability of fertilizers, seed etc. at proper time	13	21.66	VI	51	85	I
V	Extension Constraints						
	Non-availability of technical information	10	16.67	II	52	86.67	III
	Non-availability of expert advices subsequently	43	71.67	I	55	91.67	I
	Lack of field demonstration farmers field	8	13.33	IV	51	85.00	IV
	Lack of training program on paddy seed production technology	2	3.33	V	53	88.33	II
	Non-availability of literature on improved production technology	9	15.00	III	47	78.33	V
VI	Institutional Constraints						
	Lack of co-operative societies in village	30	50.00	III	32	IV	
	Non-availability of agril. Inputs like seeds, fertilizer, chemicals equipment etc. in time from co-operative societies	40	76.67	I	50	I	
	Non-availability of technical information from gram panchayat	41	68.33	II	45	II	
	Non-availability of staff at proper time in the institution	15	25.00	IV	43	III	

Marketing Constraints

The data presented in table 1 shows that beneficiaries were under marketing constraints, mismanagement of procurement centers (65 %), low selling price of produce (58.33 %) and delay in payment in the market (55%), also in the case of non- beneficiaries non availability of fertilizer seed etc. at proper time (55%), delay in payment in the market (81.67%) and low selling price of produce (80%) were major marketing constraints.

Extension Constraints

It is evident from the table 1 that the beneficiaries were under extension constraints, non-availability of timely expert advices (71.67%), non-availability of technical information (16.67) and non-availability of literature on improved production technology. In the case of non-beneficiaries, lack of irregular visit of SMS in village (91.67%), lack of training programme on paddy seed production technology and non- availability of technical information (86.67%) were the major extension constraints faced by seed producers.

Institutional Constraints

The table 2 reveals that beneficiaries and non-beneficiaries were under

institutional constraints, non-availability of agriculture inputs like seeds, fertilizers, chemicals equipment etc., from co-operative societies (76.67%, 83.33%) and non-availability of technical information from gram panchayat (68.33%, 75%) were the major institutional constraints faced by paddy seed producers in adoption of Paddy seed production technology. Similar findings have been reported by **Sharma et al. (2008)**.

Suggestions for Future Prospect

Performance recorded by the seed producers related to future prospects of paddy seed production.

Table 2: Suggestions for Future Prospects for Paddy Seed Production in the Study Area

S. N0	Issues of Future Prospects	Beneficiaries			Non -Beneficiaries		
		F	P	R	F	P	R
1	2	3	4	5	6	7	8
I	Resources and Infrastructure Management						
	Availability of agricultural inputs and credit	57	95.00	I	58	96.67	I
	Market establishment	55	91.67	II	57	95.00	II
	Unstrapped electricity supply	53	88.33	III	54	90.00	III
	Labour management at the village	52	86.67	IV	53	88.33	IV
	Pakka road	43	71.67	VI	43	71.67	V
	Transport facility	48	80.00	V	51	85.00	VI
II	Technological Prospects						
	Compatible training	57	95.00	II	59	98.33	I
	Ensured training for seed treatment, soil testing and fertilizer doses	56	93.33	III	57	95.00	III
	Use of bio-pesticides as insect pest control measures	54	90.00	IV	55	91.67	IV
	Availability of quality seed	59	98.33	I	58	96.67	II
III	Extension Prospects						
	Effective technical information	57	95.00	I	57	95.00	I
	Demonstration at farmer field	56	93.33	II	56	93.33	II
	Using of literature and use of Audio-visual aids for dissemination of paddy seed	55	91.67	III	54	90.00	III

Resources and Infrastructure Management

The data presented in table 2 shows that from the total beneficiaries and non- beneficiaries, availability of agriculture input and credit (95%,96.67%), market establishment (91.67%, 95.00%), untrapped supply of electricity (89.88%, 90.00%), labour management at the village level (88.33%, 90%), transport facility (80.%, 85.00) and pakka road (71.67%, 71.05%) were the major constraints for future prospects for resources and infrastructural management.

Technical Prospects

It is evident from the table that 2 out of the total beneficiaries and non- beneficiaries, under availability of quality seeds (98.33%, 96.67%), compatible training (95.%, 98.33%), training for seed treatment, soil testing and applicable fertilizer doses (93.33%, 95.00%) and use of bio-pesticides as insect pest control measures (91.%, 91.67%) etc. were technical prospects which are of serious concern.

CONCLUSIONS

From the production perspective the constraints to quality seeds of HYVs take two forms: those influencing the yield potentialities of the crop under the farmers' environment and those influencing the disposition and aptitude of the farmer to attain the yield at farm level. Clearly in Keonjhar region both kinds of constraints affected the yield potential at the farm level.

Therefore, more suitable varieties for different agro-climatic zones is a necessity on the one hand and access to resources including (a) credit and (b) diffusion of innovations among farmers and extension agencies on the other hands.

Constraints Experienced and Suggestions Reported by Respondents in Adoption of Paddy Seed Production Technology

- The beneficiaries faced major constraints i.e. Irregular supply of electricity (91.67 %), insect pest and disease control measures (20.00%), interest rate on bank loan (60.00%), mismanagement of procurement centers (58.33 %), non-availability of expert advices (71.67%) and non-availability of agriculture inputs like seeds, fertilizer, chemicals equipment etc. in time from co-operative societies (76.67%) whereas, in case of non-beneficiaries irregular supply of electricity (95.00 %), lack of knowledge regarding isolation distance (91.67%), high interest rate on bank loan (86.67%), non-availability of fertilizer and seed (85.00%), non-availability of technical information (91.67%) and non-availability of crucial inputs like seeds, fertilizer, chemicals, equipment etc. in time from co-operative societies (83.33%) were the major constraints faced by both beneficiaries and non-beneficiaries.

Suggestions

- Availability of agriculture inputs and credit (95%,96.67%), market establishment (91.67%, 95.00%), untrapped supply of electricity (89.88%, 90.00%), labour management at the village level (88.33%, 90%), transport facility (80.00. %, 85.00) and pakka road (71.67%, 71.05%) were the major constraints for future prospects for resources and infrastructural management.
- The total beneficiaries and non- beneficiaries, under availability of quality seeds (98.33%, 96.67%), compatible training (95.%, 98.33%), training for seed treatment, soil testing and applicable fertilizer doses (93.33%, 95.00%) and use of bio-pesticides as insect pest control measures (91.%, 91.67%) etc. were technical prospects which are of serious concern.

RECOMMENDATIONS

- From the findings of the study and on the basis of our own observations, we offer a few recommendations which bear on the specific situation and will help the extension agencies to disseminate the improved practices at a greater pace.
- Steps should be taken to see that more modal farms, demonstrations plots and seed farms are introduced in the community development blocks to serve the farmers as important centers of information and supply in the process of diffusion of innovations.
- Efforts should be made to bring more educated people within the fold of agri-business. Graduates from rural

areas, with specialized in agricultural sciences, should be induced to take the agro-based enterprises in large number.

- Extension agencies should avoid factors that may adversely affect the adoption of improved practices by farmers, such as supply of low quality seeds, untimely supply of seeds, implements, insecticides and fungicides that are unsuitable to the local conditions
- The agriculture credit policy of the government and the cooperatives should be recommended to enable, the farmers to receive credit adequately and promptly by assurance of fair prices of produce has important roles to play in the adoption process.
- From the point of view of future research on the problem, socio-psychological factors showed be given more importance than economic factors as the farmers appear to be relatively more influential. In this regard, the attributes like political knowledge, interpersonal trust, leadership and deferred gratification etc. observed to be important factors.

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REFERENCES

1. **Singh, A.K.; A. Mishra and M.J. Baruah (2007).** Differential adoption behaviour of farmers in cereal production technology under different farming systems. *Abstract published in the Compendium of 4th National Extn. Edu. Congress* organized by Society of Extn. Edu., Agra at JNKVV, Jabalpur, p-63.
2. **Singh, B.K. and Rekha Bhagat (2002).** Socio-economic and infrastructural correlates of commercial vegetable cultivation.. *Indian J. Extn. Edu.*, 38 (1&2) : 49-56.
3. **Singh, Dan; V.K. Singh and R.N. Yadav (2007).** A study on the socio-economic characteristics of cole crops growers in Meerut district of Western Uttar Pradesh. Abstract published in the *Compendium of 4th National Extn. Edu. Congress* organized by Society of Extn. Edu., Agra at JNKVV, Jabalpur, p. 128.
4. **Singh, G.S. (2001).** A study of socio-personal correlates of contact and non-contact farmers of Shahpura block of Jabalpur district (M.P.) and their level of knowledge and adoption of gram production technology. *M.Sc. (Ag.) Thesis (unpublished)*, JNKVV, Jabalpur.
5. **Sivalingaiah, Y.N. and V. Veerabhadraiah (1996).** Participation of rural youth in sericulture. *J. Extn. Edu.*, 7 (1 & 2) : 1425-1430.
6. **Sonare, Vijay Kumar (2008).** A study on adoption behaviour of potato growers in relation to improved production technology among selected farmers of Chhindwara block of Chhindwara district. (M.P.) *M.Sc. (Ag.) Thesis (unpublished)*, JNKVV, Jabalpur
7. **Sreedaya, G.S. and N.P. Sushma Kumari (2000).** Training needs of farmers in cereal cultivation. *Maha. J. Extn. Edu.*, 19 : 92-94.
8. **Subhashini, B. and S. Tyagarajan (2000).** Socio-personal characteristics of farmers and adoption of tapioca

9. **Thyagarajan, S. and J. Vasanthakumar (2000).** Characteristics of rice farmers and adoption pattern of recommended rice technologies. *Indian J. Extn.Edu.*, 36 (1&2) : 48.
10. **Tiwari, S.G. (2006).** A study on adoption behaviour of pea growers in relation to scientific production technology in Shahpura block of Jabalpur district (M.P.). *M.Sc. (Ag.) Thesis (unpublished)*, JNKVV, Jabalpur.
11. **Vekaria, R.S.; Patel, B.P. and B.S. Mahajan (1993).** Knowledge level of farmers towards modern agricultural technology. *Maharashtra Journal of Extension Education*. 2: 79-82.
12. **Waman, G.K., P.S. Patil and P.G. Patil (1998).** Adoption of onion production technology and its correlation. *Maha. J. Extn. Edu.*, 23 (2) : 56-159.
13. **Yadav, B.S. and I.M. Khan (2007).** Knowledge level of farmers about scientific cultivation practices of cauliflower. Abstract published in the *Compendium of 4th National Extn. Edu. Congress* organized by Society of Extn. Edu., Agra at JNKVV, Jabalpur, p. 56
14. **Yadav, N.S. (2001).** A study on knowledge and adoption behaviour of onion growers in Sehore district (M.P.). *M.Sc. (Ag.) Thesis (unpublished)*, JNKVV, Jabalpur

